

**REMARKS**

The Examiner rejected applicants' claims 1-4, 8, 9 and 11-20 under 35 U.S.C. §103(a) as being unpatentable over Bischel et al. (2002/0110328, hereinafter "Bischel") in view of Nakabayashi (2003/0112515, hereinafter "Nakabayashi") further in view of Ishihara et al. (2001/0050815, hereinafter "Ishihara"). The Examiner stated that claims 5-7 and 10 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Because applicants believe that the remaining claims present in the application are patentable, applicants have not rewritten the claims. Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §103(a).

Claim rejections under 35 U.S.C. §103(a) (Bischel, Nakabayashi, Ishihara):

A *prima facie* case of obviousness requires that all limitations of applicants' claims be taught or suggested in the prior art (MPEP 2142). The Examiner has not shown that the combination of the Bischel, Nakabayashi and Ishihara references teaches or suggests "an optical emitter, an encapsulant covering the optical emitter, and a diffractive element integrated into the encapsulant, wherein the encapsulant passes light from the optical emitter to the diffractive element" as recited in applicants' claim 1. Absent such a showing by the Examiner, a *prima facie* case of obviousness cannot be made under §103(a).

Bischel's standoff structure, laser array and butt coupled waveguide chip are not the same as applicants' optical emitter:

Since the Examiner states that Bischel *fails* to disclose the diffractive element structure and the resin/encapsulant structure, applicants can only assume that the Examiner has equated Bischel's standoff structure 222, laser array 210, and waveguide chip 215 with applicants' optical emitter. Bischel discloses a laser pump source with a standoff structure 222 that defines a reference surface 305 to achieve accurate alignment between emitters of a laser array 210 and corresponding waveguides of an IO waveguide chip 215. (paragraph 062). Bischel discloses that the standoff structure 222 enables precise longitudinal positioning of IO chip 215 to facilitate butt coupling between the IO chip 215 and the laser array 210. (Paragraph 58).

Due to the butt coupled arrangement between the laser array 210 and the IO chip 215 in Bischel's laser pump source, Bischel's disclosed structure is necessarily different from applicants' claimed optical emitter and encapsulant covering the optical emitter, wherein the encapsulant passes light from the optical emitter to the diffractive element.

Nakabayashi's substrate and diffraction grating are not the same as applicants' diffractive element integrated into the encapsulant:

The Examiner stated that Nakabayashi discloses applicants' diffractive element. Nakabayashi discloses a diffractive optical element that includes "a substrate, and a resin layer formed on the substrate ... the resin layer including a blazed diffraction grating on its surface..." (paragraphs 0011, 0012). Nakabayashi states that the substrate is made of glass. (paragraph 0026).

Nakabayashi's diffractive optical element on the glass substrate is clearly different from applicants' diffractive element integrated into the encapsulant covering the optical emitter. The Examiner has not indicated, nor is it apparent, how a glass substrate and resin layer, such as those disclosed by Nakabayashi can be modified to arrive at the applicants' diffractive element integrated into the encapsulant, where the encapsulant covers the optical emitter.

Ishihara's light separation device, blazed grating device, diffraction grating device and illumination optical system are not the same as applicants' encapsulant:

The Examiner stated that Ishihara's light separation device, blazed grating device, diffraction grating device and illumination optical system disclose applicants' encapsulant structure. Ishihara discloses "a blazed grating formed on a surface of a flat-plate-shaped transparent substrate..." (Ishihara's Abstract). The resulting optical device "separate[s] light into light components having different properties". (paragraph 0025).

Ishihara's blazed grating on the flat-plate-shaped transparent substrate does not form an encapsulant covering the optical emitter. Ishihara's blazed grating on the flat-plate-shaped transparent substrate is also not integrated into the encapsulant covering an optical emitter, wherein the encapsulant passes light from the optical emitter to the diffractive element, as recited in applicants' claim 1.

In sum, even if there were motivation to combine Bischel's laser pump source for optical amplifiers with Nakabayashi's substrate and resin layer and Ishihara's light separation device, the resulting combination does not teach or suggest the limitations recited in applicants' claims. Accordingly, a *prima facie* case of obviousness has not been made and the rejection under §103(a) should be withdrawn on this ground.

There is no suggestion or motivation to combine the teachings of Nakabayashi or Ishihara with the teachings of Bischel:

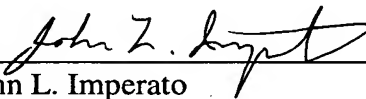
The *prima facie* case of obviousness also requires that there be some suggestion or motivation to combine the reference teachings. In making the rejection under §103(a), the Examiner concluded that it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the required diffractive element and the resin/encapsulant structures in Bischel as taught by Nakabayashi and Ishihara respectively in order to have a light emitting device with higher performance. However, there is no suggestion in the references, nor has the Examiner suggested why there would be motivation to combine a substrate and resin layer as taught by Nakabayashi and a light separation device as disclosed by Ishihara, with Bischel's laser pump source for an optical amplifier, where the laser pump source has an optical fiber array 220 for guiding coupled light.

CONCLUSION

The above argument presented regarding the rejection of applicants' claim 1, also applies to rejected claims 2-4, 8, 9 and 11-20. The combination of the cited prior art references does not teach or suggest all the elements and limitations of applicants' claims. Further, there is no suggestion or motivation to combine the teachings of the prior art references. Accordingly, applicants respectfully request that the rejection under 103(a) be withdrawn.

Applicants believe that claims 1-20 are in condition for allowance. If the Examiner has any questions or would like to discuss this application in more detail, he/she is invited to call the applicants' attorney at the telephone number given below.

Respectfully submitted,

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